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Rudd receives award for fatigue and fracture work

by Carol Young, Air Vehicles directorate

WRIGHT-PATTERSON AFB, OHIO — James L. Rudd of the Aeronautical Sciences Division of the Air Force Research Laboratory's Air Vehicles directorate received a 1999 American Society for Testing and Materials, or ASTM, award of merit from the standards writing committee E-8 on fatigue and fracture. He was also named a Fellow, which is the society's highest award granted to an individual member for distinguished service and outstanding participation in technical committee activities. Rudd was cited for his exceptional leadership and service in developing standards, chairing symposia and editing special technical publications.

Rudd's career has focused on structural integrity, specifically durability and damage tolerance of aerospace systems. He conducted research and development in fatigue, fracture mechanics and reliability methods to ensure the structural integrity of aerospace systems. Rudd was responsible for the development of the Air Force's "Durability Design Handbook" and innovative structural durability analysis methods based on probabilistic fracture mechanics principles. He also pioneered the "Equivalent Initial Flaw Size" concept, the most significant component of the durability analysis.

Rudd served on a team that developed the Air Force damage tolerance design requirements and the methodology required to satisfy these requirements. He also developed stress intensity factors and load-interaction models for complex geometrics and loading conditions to preclude the occurrence of catastrophic failure of aerospace systems.

Committee E-8 is one of 130 ASTM technical standards-writing committees. Organized in 1898, ASTM is one of the largest voluntary standards development organizations in the world. **@**